

TABLE 2.—Hourly rainfall amounts (inches) at Tulsa Airport, September 3-4, 1940

Hour	Third a. m.	Third p. m.	Fourth a. m.	Fourth p. m.
1	0	0	0.11	0.22
2	0	0	.22	.15
3	0	0	.34	.02
4	0	0	.30	.01
5	0	.01	.26	.01
6	0	.05	.17	.02
7	0	0	.15	0
8	.03	0	.19	0
9	0	0	.24	0
10	0	0	.21	0
11	0	0	1.61	0
12	0	.06	1.98	0

## FLOOD-STAGE REPORT FOR SEPTEMBER 1940

[All dates in September unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	<i>Feet</i>			<i>Feet</i>	
James: Columbia, Va.....	10	Aug. 31	3	16.0	1
Saluda: Pelzer, S. C.....	6	1	1	6.9	1
Catawba: Catawba, N. C.....	8	Aug. 30	2	16.0	Aug. 31
Santee:					
Rimini, S. C.....	12	1	3	13.4	3
Ferguson, S. C.....	12	(1)	3		
Savannah: Butler Creek, Ga.....	21	1	2	22.9	1
MISSISSIPPI SYSTEM					
Arkansas Basin					
North Canadian: Yukon, Okla.....	8	5	5	9.1	5
Arkansas: Tulsa, Okla.....	16	4	5	19.3	5

1 Continued from preceding month.

## ESTIMATED FLOOD LOSSES AND SAVINGS DURING 1938

By BENNETT SWENSON

[U. S. Weather Bureau, Washington, Oct. 1940]

The estimated flood losses during the year 1938 (table 1) total \$101,099,645. The average annual loss for the years 1924 to 1938, inclusive, is approximately \$105,000,000. The greatest annual loss during this period occurred in 1937 with a total estimated loss of approximately \$482,000,000, and the least in 1931 with a total of about \$2,800,000.

The outstanding floods during the year, with estimated losses, were as follows:

Floods in New England during September caused damage amounting to about \$37,000,000; early in March a total loss of approximately \$24,500,000 occurred during the severe floods in southern California; and in July a loss of more than \$5,000,000 was reported from floods in the Colorado River in Texas.

The reported savings as the result of flood warnings during the year, shown in table 2, reach a total of more than \$11,000,000.

TABLE 1.—Estimated flood losses during 1938

River and drainage	Tangible property totally or partially destroyed	Matured crops	Prospective crops	Live- stock and other movable farm property	Suspension of business	Total
<b>ST. LAWRENCE</b>						
Maumee River			\$2,600			\$2,600
Rivers in southeastern Michigan						119,350
Saginaw River	\$9,350		11,900	\$550	\$1,000	22,800
Grand River	90,100			700	4,400	95,200
<b>ATLANTIC SLOPE</b>						
Merrimack River						16,000,000
Connecticut River	23,673,000		1,923,000			25,596,000
Mohawk River						100,000
Hudson River						5,220,000
Susquehanna River	130,900	\$10,210	3,090	1,000	7,025	152,225
Roanoke River	5,000	11,000	281,000		46,000	343,000
Neuse River	3,800	1,000	35,200	600	3,500	44,100
Cape Fear River			2,750	250	1,000	4,000
Tar River			28,500		2,000	30,500
Savannah River				650	4,750	5,400
Altamaha River	7,000	200	8,000	3,600	9,000	27,800
<b>EAST GULF OF MEXICO</b>						
Apalachicola River	4,100		3,300	3,650	10,250	21,300
Pea River	37,500					37,500
Choctawhatchee River	47		8,000			3,047
Conecuh River	23,300	220	12,600		1,900	38,020
Alabama River	375,000	12,700	276,000	17,600	221,000	902,300
Black Warrior and Tombigbee Rivers	40,400	500	2,450	4,060	45,000	92,410
Pascagoula River	145,000	3,700	86,000	9,000	25,000	268,700
Pearl River	95,000	2,300	165,000	5,300	24,000	291,600
<b>UPPER MISSISSIPPI BASIN</b>						
Chippewa River	72,000	5,000	20,000	15,000		112,000
Whitewater and Zumbro Rivers	80,000	40,000		2,000		122,000
Black River (Wis.)	52,000	15,000				67,000
Root River (Minn.)	10,000	10,000				20,000
Wisconsin River	204,315	524,150	155,600	13,535	42,100	939,700
Turkey River	26,200					26,200
Rock River	440,000	245,000	35,000	31,000	45,000	796,000
Cedar-Iowa Rivers	1,000	1,500			1,000	3,500
Des Moines River	9,750	58,750	3,800	250	300	72,550
Illinois River	15,200					15,200
Mississippi River above Cairo, Ill.	1,164,250	125,800	148,300	2,940	43,560	1,484,850
<b>MISSOURI BASIN</b>						
Rivers in Montana						1,039,000
Rivers in Colorado	679,000					679,000
Fall River in South Dakota	25,000					25,000
Big Sioux River	25,000		86,000	5,000		116,000
Smoky Hill River	425,000		440,000	18,000	11,000	894,000
Republican River	7,000		6,000			13,000
Osage River	15,000	100,000	181,000	2,200	7,000	305,200
Missouri River	165,785	137,500	942,000	12,100	4,550	1,261,935
<b>OHIO BASIN</b>						
Muskingum River		5,500	13,000		5,000	23,500
Scioto River			3,200			3,200
Green River			10,000			10,000
Wabash River	171,130	275,200	3,596,750	6,200	188,100	4,237,380
North Fork of Holston River	15,000		700			15,700
Watauga River (Brush Creek)	100,000	5,000			1,000	106,000
Little Pigeon and Little Rivers	62,000		8,000	15,000		85,000
<b>WHITE BASIN</b>						
Black River	17,000		500	200	6,000	23,700
White River	99,000	8,700	25,800	9,200	24,900	167,600
<b>ARKANSAS BASIN</b>						
Little Arkansas River	2,000	5,000	500		2,000	9,500
Walnut River			210,000			210,000
Ninnescah River	26,200		29,600	300		56,100
Verdigris River	5,000		105,000			110,000
Cottonwood River	4,450	6,000	180,000	3,200	10,000	203,650
Neosho River	94,350	120,346	455,500	25,500	57,460	753,156
North Canadian River	80,100	500	10,050		100	90,750
South Canadian River						50,000

1 Furnished by U. S. Engineer Office.

2 Including all agricultural losses.